

THERE IS CLAIMED:

1. A CVD process for producing preforms for dispersion shifted optical fiber or dispersion compensating optical fiber having a core comprising a central portion, an inner cladding, a ring, and an outer cladding, by depositing layers, in which process the layers of said preform corresponding to said inner cladding and to said ring of said optical fiber have a phosphorus content not greater than 0.1 wt%.
2. The optical fiber preform production process claimed in 1 wherein said layers of said preform corresponding to said inner cladding and to said ring of said optical fiber have a phosphorus content from 0.03 wt% to 0.1 wt%.
3. The optical fiber preform production process claimed in claim 1 wherein said layers of said preform corresponding to said outer cladding of said optical fiber have a phosphorus content in the same range of values as said layers of said preform corresponding to said inner cladding and to said ring of said optical fiber.
4. The optical fiber preform production process claimed in claim 1 wherein said layers are deposited at a pressure within 20% of atmospheric pressure.
5. The optical fiber preform production process claimed in claim 1, when said optical fiber is intended to be integrated into a submarine cable.